Onboarding TEKTELIC Sensor onto TEKTELIC CORE

Introduction

- Reference guide to onboard TEKTELIC Sensors onto Tektelic CORE.

- List Requirements:
1. TEKTELIC Sensor and accompanying commissioning information
2. TEKTELIC CORE account credentials
3. Android/Apple smartphone (for LeapX only)

- High-level procedure involves three sections

1. Create Application

2. Advanced Network Settings

3. Create Device

Preface

When you purchase a TEKTELIC sensor, you will receive commissioning information for your device. These include:
- DevEUI
- AppEUI
- AppKEY

If you do not have the requisite sensor information, please raise a ticket on the support portal and provide the following information:
- T-code: i.e. T000XXYY
- Serial Number: i.e. 1212A3434

Figure-1 Sensor Identification

Create Application

An Application on TEKTELIC CORE NS serves to organize devices you own. To create one, please follow the below steps.

1. Login to your NS instance using TEKTELIC CORE credentials: FOR NA USERS – FOR EU USERS
2. On the left navigation pane or on the main menu, select **Applications/Application Management**
3. In the top right corner of the screen, select **(+)** to create a new Application
4. Fill out the name as desired and select **Add** to finalize.
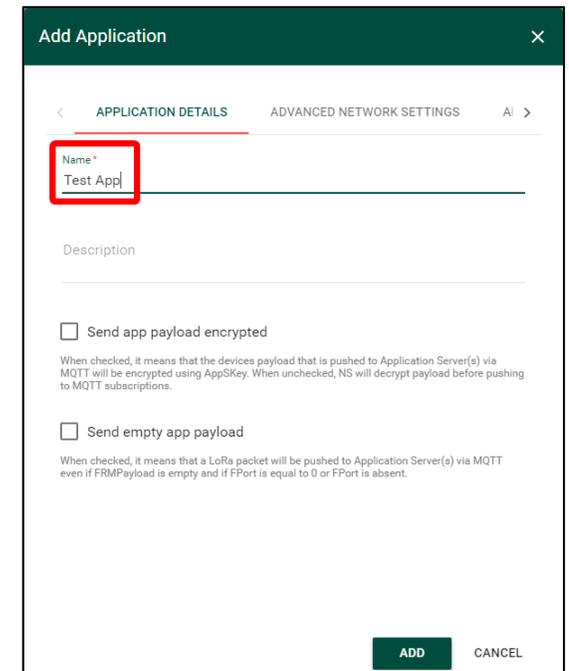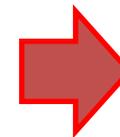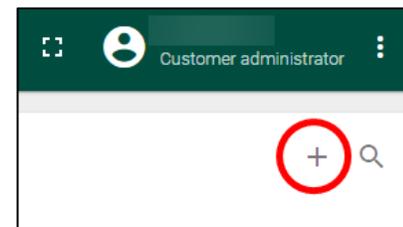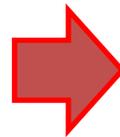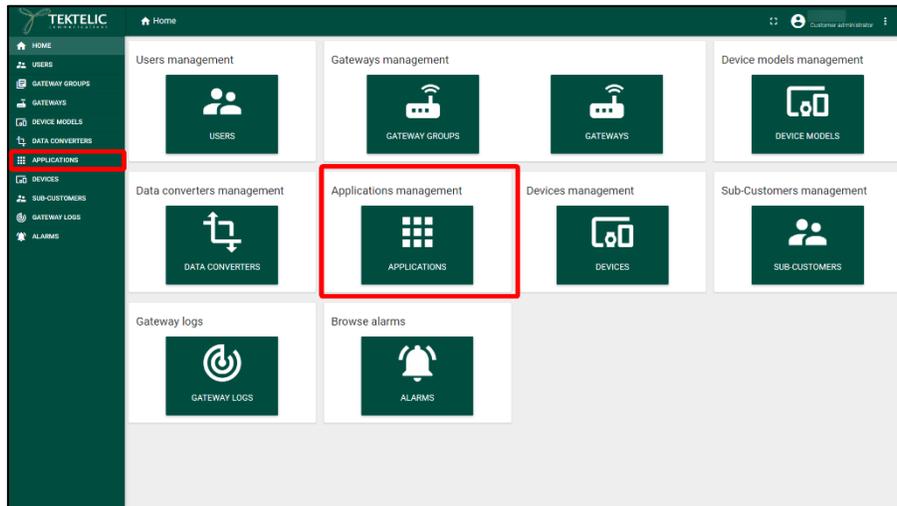
Advanced Network Settings

Before creating a device, we recommend configuring your application in accordance to your gateway by configuring **Advanced Network Settings.**

The following slides will cover:
- **Configuring Advanced Network Settings** on the Application or Device level.
- **Applying a channel mask for NA customers** with an 8-channel gateway such as a **Kona Micro/Enterprise.**
- **Applying a Channel Frequency List (CFList) for EU and AS customers.**

Configure Advanced Network Settings

You can configure Advanced Network Settings on an Application or on a per-Device level. <mark>We recommend configuring devices to use the Application Level.</mark>

- Configuring Advanced Network Settings on a Device level will ONLY apply to the device selected.
- Configuring Advanced Network Settings on an Application level will apply to devices configured to use Application settings.
- You can have some devices that use Application settings and those that do not.
- By default, creating a device will use its own Advanced Network Settings. <mark>**No further configuration is required.**</mark>

Figure-3 Advanced Network Settings

Application Adv. Network Settings

Device

Device Adv. Settings

Application

Device

NOTE: All devices are connected to the same application
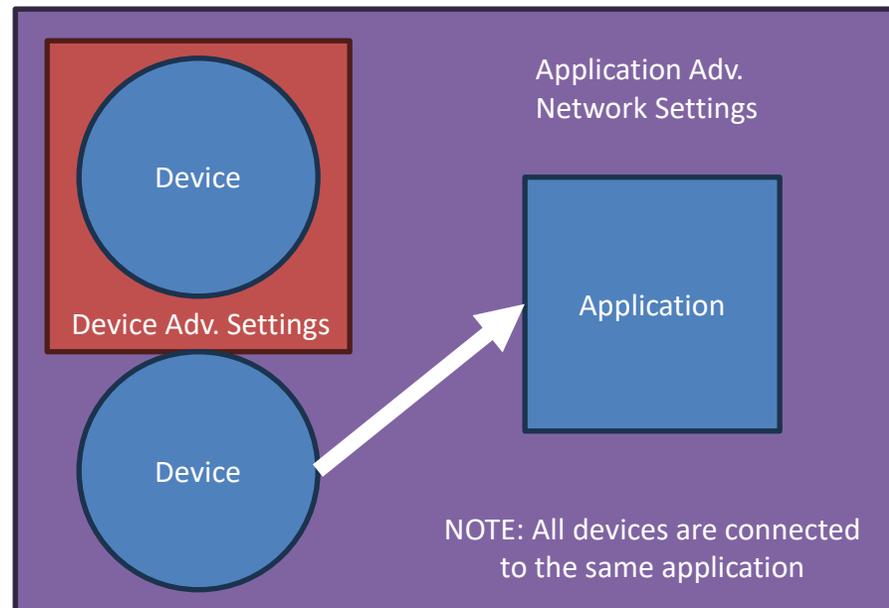
Applying Channel Mask

For NA customers with an 8-channel gateway such as a Kona Micro/Enterprise, you must set a channel mask on your application or device. Failure to do so will result in uplink loss.

To set a channel mask, follow the below steps:
1. Navigate to your **Application details or Device details page**.
2. Click the **Pencil icon** in the **top right** to edit settings.
3. Select the **Advanced Network Settings** tab
4. Scroll down to **"Default Channel Mask"**. Click on **"Not Defined"** to reveal a drop-down menu and select **"8-channel"**.
5. Finalize by clicking the **checkmark icon** in the top right.

NOTE: <mark>**The channel mask is applied when a sensor first joins the network. Sensors already online prior to setting the mask MUST be reset.**</mark>
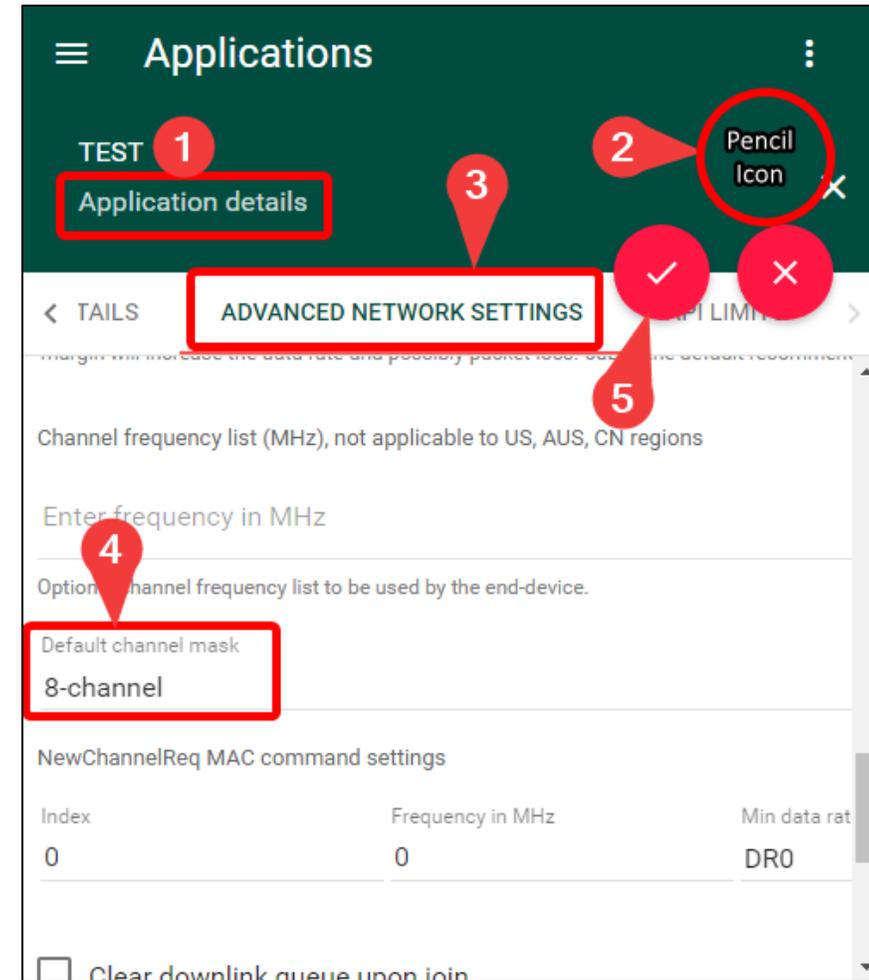
Figure-5 Channel Mask Application

Applying Channel Frequency List

For EU or AS customers, you must set a channel frequency list on your application or device. Failure to do so may result in uplink loss.

To set a channel mask, follow the below steps:
1. Navigate to your **Application details or Device details page**.
2. Click the **Pencil icon** in the top right to edit settings.
3. Select the **Advanced Network Settings** tab
4. Scroll down to **"Channel Frequency List (MHz)"**. Click on **"Enter frequency in MHz"** and enter your frequencies.
5. Finalize by clicking the **checkmark icon** in the top right.

NOTE: You may enter up to 5 frequencies <mark>**excluding join frequencies as they're not required.**</mark> We recommend using frequencies found on the gateway.

<mark>**The channel list is applied when a sensor first joins the network. Sensors already online prior to setting the list MUST be reset.**</mark>
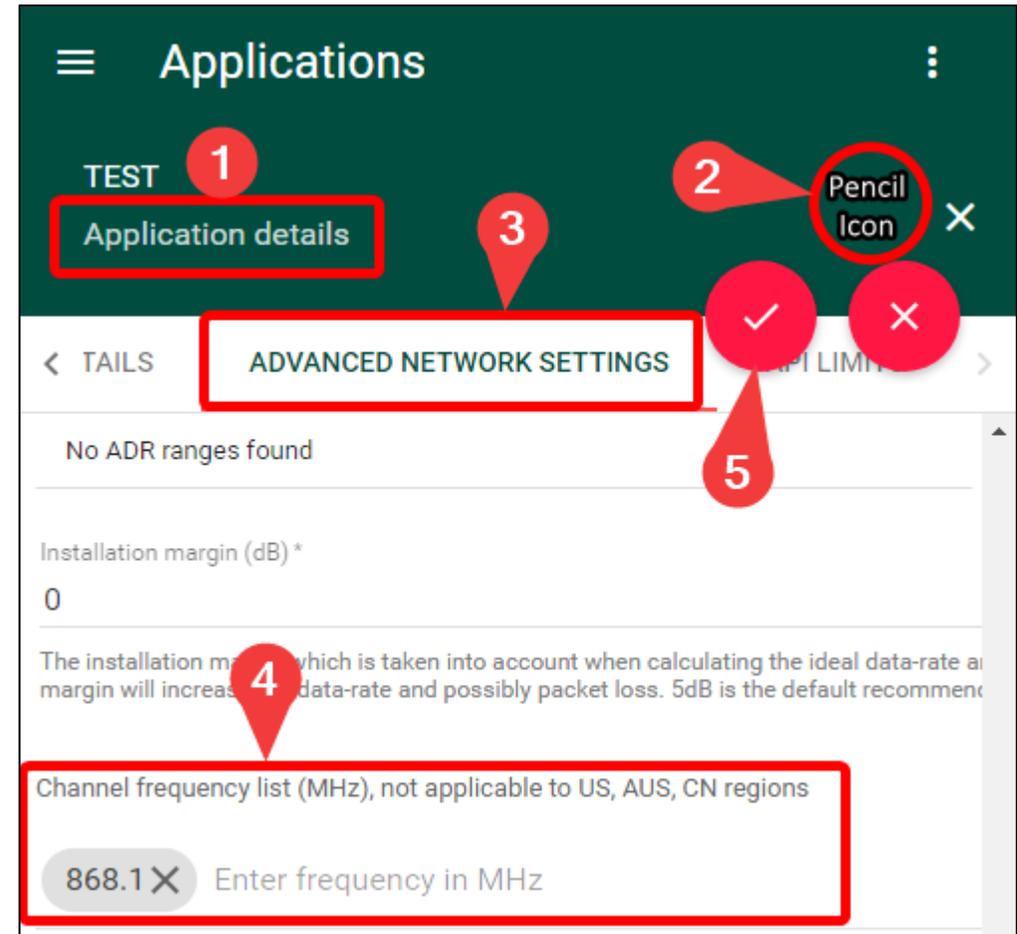
Figure-6 Applying Channel Frequency List

Applying Channel Frequency List (cont.)

To find frequencies used by the gateway, simply connect to it through **KonaFT or SSH (advanced users only)** and read the files on the gateway.

Steps for SSH (advanced users only):
1. SSH into the gateway using the gateway IP.
2. Read the frequency from either of the following files using the command:
   - **cat /etc/default/config.json**
   - **cat /etc/default/config.[gateway model].[region].json**

Steps for KonaFT:
1. [Connect to the gateway.](#)
2. In the top row of tabs, select Configuration.
3. In the middle bar, select it and type either:
   - **"/etc/default/config.json"**
   - **"/etc/default/config.[gateway model].[region].json"**
4. Beside the search bar, click **Read** and you will see a list of frequencies.

Applying Channel Frequency List (cont.)
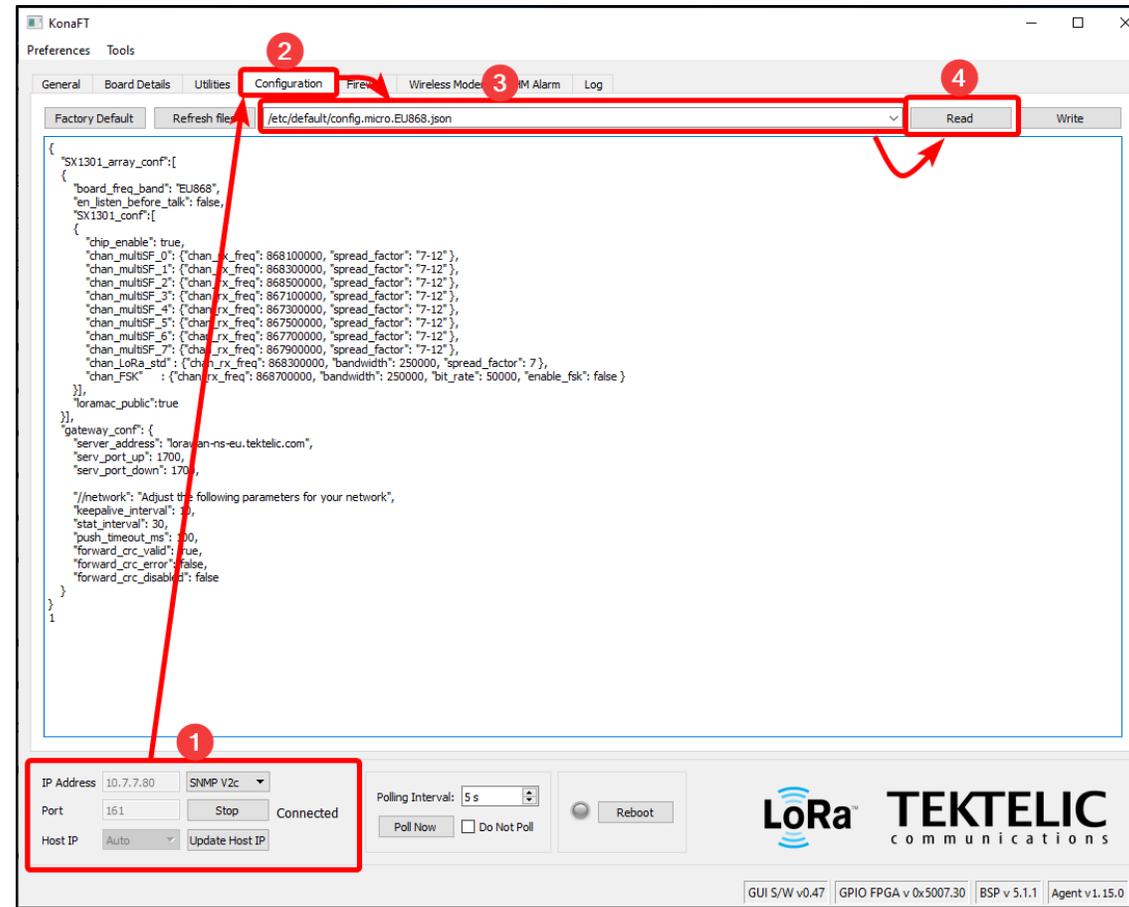
Figure-7 Frequencies found on the gateway

Create Device

The Device Object on TEKTELIC CORE NS is where the NS will connect with your device and collect data from it. To create a Device Object, follow the steps below:

1. On the left navigation pane or on the main menu, select **Applications/Application Management**
2. Select the application you wish to add a device to.
3. On the details page of the application, select **Manage Devices**.
4. On the top right corner of the screen, select **(+)** to create a new device.

NOTE: All devices must be associated with an application. Hence, you can _ONLY_ create devices through the application.
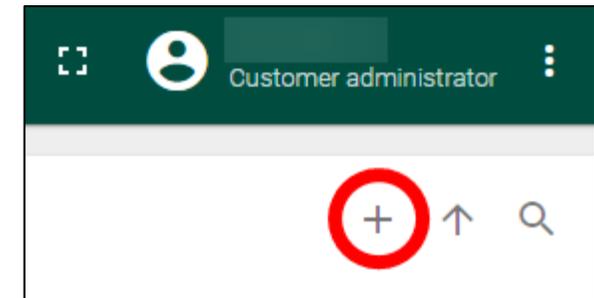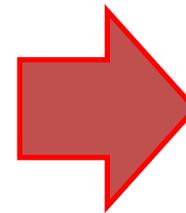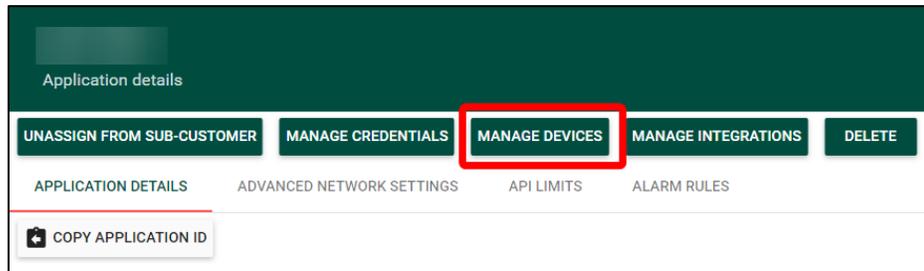
Create Device (cont.)

Fill out the fields as desired. The **Device EUI**, **Application EUI**, and **Application Key** are provided when you purchase your TEKTELIC device. If you do not have this information, please raise a ticket on the support portal.

If you want your device to use Advanced Network Settings set in the Application, tick the **Use application settings** checkbox.

If you want to activate your device through ABP, scroll down and tick the **ABP activation** checkbox.

Figure-2 Device Creation

Create Device (cont.)

To configure a device to use Application settings, you can do so in two locations:
- When a device is being created.
- In the Device Details page of a device.

If you choose to configure a device through the Device Details page, follow the below steps.

1. Open the Device details page of a device.
2. In the top right, click the **pencil icon** to edit device settings.
3. On the Device Details tab, scroll down to **Use Application Settings** and tick the checkbox.
4. Finalize by selecting the **Checkmark** in the top right.
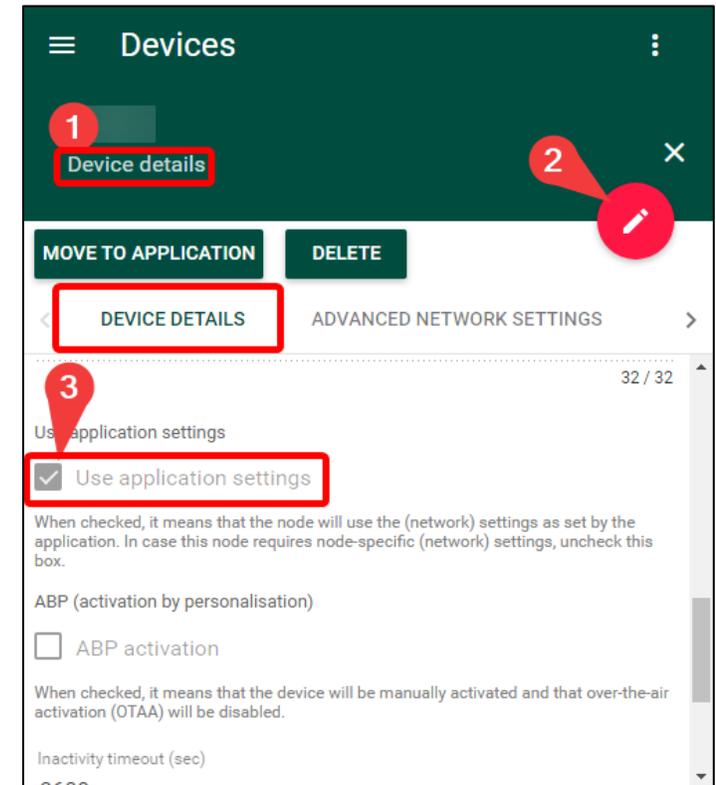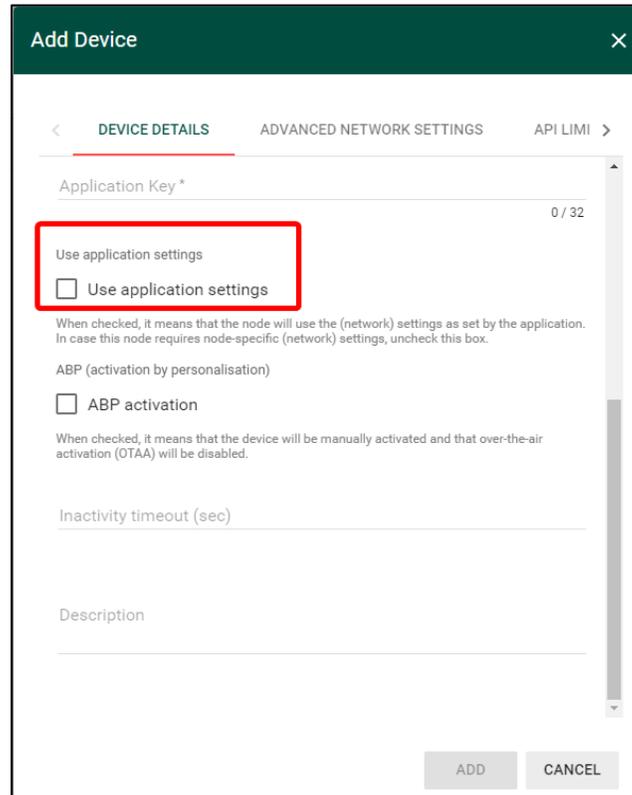
Figure-4 Applying Network Settings

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